



MEETING SUMMARY

Utah Fish Health Policy Board (FHPB)

June 1, 2015

The Utah Fish Health Policy Board (FHPB) met at 10:00 a.m. at the Utah Department of Agriculture and Food building in Salt Lake City, Utah on June 1, 2015.

The following Board members were present: Michael Canning (DWR – Assistant Director), Dr. Chris Wilson (DWR – Fish Pathologist), Dr. R. Paul Evans (BYU - Microbiology & Molecular Biology), Paul Dremann (Sport Fish Representative), Neal Barker (Aquaculture Representative), Robert Judd (Aquaculture Representative).

Other attendees: Cody James (UDAF - Animal Industry Director / Chief, Livestock Inspection Bureau), Warren J. Hess, DVM (UDAF - Acting State Veterinarian), Anna Marie Forest (UDAF - Fish Health Specialist), Martin Bushman (Utah Attorney General's Office), Bill Durler (UDAF), Randy Oplinger (UDWR), Wade Cavender (UDWR).

Call to order, welcome and introductions – Mike Canning.

Mr. Canning welcomed the attendees and asked each person to introduce themselves and state if they were a board member or not.

Introductions

Approval of the minutes / summary from October 9, 2014

Mike Canning motioned that the minutes from the previous meeting on October 9, 2014 be approved. The vote was unanimous in favor of approving the minutes.

FHPB Chair Election

Neal Barker nominated R. Paul Evans to be the next Fish Health Policy Board chair. Mike Canning asked Paul Evans if he wished to serve. Mr. Evans replied that he would be happy to serve as chair for the year. The motion was put forth and seconded. The vote was unanimous in favor of R. Paul Evans being the Fish Health Policy Board chair for 2015.

Recent proposal to sell live Swai at Asian Markets - Anna Forest

Dutch Boy Farms in Grace, Idaho sent Ms. Forest a proposal to ship in Vietnamese Catfish and sell them at Asian and Hispanic markets. Dutch Boy Farms regularly receive shipments of tilapia, Vietnamese Catfish and barramundi fry on a regular basis.

In order to import live aquatic animals into Utah, you need:

- (A) An official ENTRY PERMIT is required to import live aquatic animals or their gametes into Utah.
- (B) Each shipment of live aquatic animals must be authorized.
- (C) All import shipments of live aquatic animals must originate from sources that have been health approved by the Department pursuant to R58-17-15(A)(2) and (B).
- (D) All importations must be species that have been authorized by the Wildlife Board and the Division pursuant to R657-3, R657-59-16, and 4-37-105(1).

R657-3-11. Certificate of Registration also says that:

- (1)(a) A person shall obtain a certificate of registration before collecting, importing, transporting, possessing or propagating any species of animal or its parts classified as prohibited or controlled, except as otherwise provided in this rule, statute or rules and orders of the Wildlife Board.

Because the Vietnamese Catfish are nonnative species, they are prohibited for collection, and controlled for importation and possession. Rule 657-3-23(c) states:

R657-3-23. Classification and Specific Rules for Fish.

- (c) all native and nonnative species and subspecies of fish that are not ornamental aquatic animal species and not listed in Subsections (2) through (30) are classified as prohibited for collection, and controlled for importation and possession.
 - COR is required for importation and possession

Whoever received the Vietnamese Catfish would have to have a COR (Certificate of Registration).

Smaller Vietnamese Catfish are sold as iridescent sharks (pangasius) in pet stores. They are also a food fish. Dutch Boy Farms would like to sell them at Chinese and Hispanic markets. They would keep them alive in aquaria, have them killed at the point of purchase and supply stores on a weekly basis.

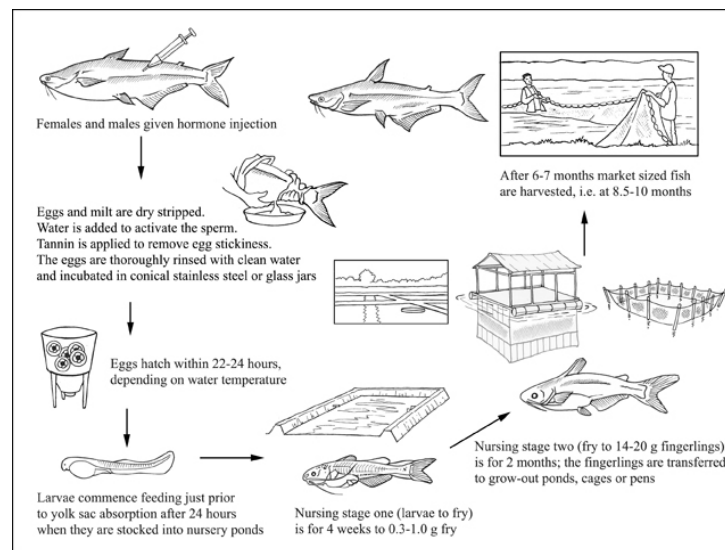
Is there a model for importing live seafood into the state of Utah? Yes and no. There are several places that import live seafood. Red Lobster imports lobster. Buck O' Crawfish import Louisiana crawfish. Neither establishment has a COR.

Dutch Boy Farms sent Anna a proposal to import Vietnamese Catfish but it was denied. It was denied because the Fish Health information they sent to Ms. Forest was for tilapia – not Vietnamese Catfish. Anna talked with the operator of Dutch Boy Farms (Mr. John Lambregts) twice. Mr. Lambregts told Ms. Forest that she could not deny his request for importation of Vietnamese catfish because of the importation that was already happening at other establishments such as Red Lobster. According to Mr. Lambregts, if the UDAF Fish Health division did deny his request to import Vietnamese Catfish from his establishment into Utah, they would be arbitrary and capricious in their enforcement of the law.

The concern is that there are requirements within the Code re: seafood that is being ignored at this point by the Department of Agriculture. If we tried to enforce the rule for freshwater fish, it may be thrown out or challenged because we are not consistent with enforcement.

Vietnamese Catfish is a very popular meat market fish. They come from the Mekong and Chaopraya rivers in southeast Asia. In captivity their lifespan is 20+ years and reach their sexual maturity in 2 to 3 years. They are warm water fish and can reach up to 97 pounds.

They have figured out how to make these fish breed without collecting them from the wild anymore. They inject the males and females with hormones and then they strip them and fertilize the eggs. The fish are harvest size for fillets after about 8.5 to 10 months.



http://www.fao.org/fishery/culturedspecies/Pangasius_hypophthalmus/en

Disease Concerns

According to Ms. Forest at this time there are no domestic brood stock for these fish. They are being brought over from overseas as laravel fry. There are a lot of different papers that discuss disease problems with these fish in southeast Asia. The Vietnamese Catfish are given a large amount of antibiotics (below). In addition there some of these fish have bacteria which is resistant to some antibiotics.

The fry are imported from Thailand to Idaho. The diseases which have been cultured from the Vietnamese Catfish (*Pangasianodon hypophthalmus*) are the following:

- *Aeromonas hydrophila* (Ly et al. 2009)
- *Aeromonas sobria* (Ly et al. 2009)
- *Aeromonas caviae* (Ly et al. 2009)
- *Edwardsiella ictaluri* (Ly et al. 2009, Dung et al. 2008)
- *Edwardsiella tarda* (Shetty et al 2014)
- *Clostridium* sp. (Ly et al. 2009)
- Vibrionaceae (Sarter et al. 2007)
- Reoviruslike virus of tra catfish (Ly et al. 2009)
- Observed by TEM (No CPE observed on BF-2)

For these types of Catfish there is:

- No inspection requirement
- Antimicrobial Resistance (Dung et al. 2008)
- 73.4% resistance to at least three antimicrobials
- 83% streptomycin
- 81% oxytetracycline
- 71 % trimethoprim
- Does not result in clinically apparent disease (Singh and Lakra 2012)
- Human health concern

Because of these disease concerns, several questions are raised re: COR and Inspections:

COR Questions

- Do grocery store and restaurant aquaria need to be defined in the Aquaculture Act and Aquaculture and Aquatic Animal Health Rule?
- Should retail markets and restaurants be exempted?
- Should the CORs requirement to hold live aquaculture products be enforced?
 - Freshwater species?
 - Vietnamese catfish
 - Crawfish
 - Marine Species
 - Lobsters, crab
 - Mollusks (oyster, clams, mussels, snails)

Inspection Requirements

- Should international imports or imports with international origins have more stringent inspection requirements?
 - Bacterial culture with antimicrobial resistance testing?
 - 3 Cell lines for virology?

Currently Utah does not test for anti-microbial resistance. Martin Bushman said that if the DWR/FHPB were to develop a policy that is going to test for these types of things coming from international shipments we should then also look at doing this on an interstate domestic basis. Anna stated that it is more an international issue than a domestic one because there are seven legal compounds approved to treat Aquaculture in the United States. In Asia they are using over twenty-four.

Chris Wilson mentioned that this particular species has devastated the domestic Catfish industry in the southeast US. The Asian producers have undercut the market and they're using all these drugs that US producers are not permitted to use. Dr. Wilson said that there is great concern about drug resistance spreading. In addition, drugs that have been reserved for human use have routinely been used on these fish.

Anna said that Dutch Boy Farms is listing the fish imported from Thailand as tropical fish. The iridescent catfish is an aquarium species. As such, it is not subject to State of Utah regulations. However, once you grow it up and then try to sell it at a fish market for human consumption it is an Aquaculture product subject Fish Health testing regulations, etc. Furthermore Robert Judd stated that Dutch Boy would be bringing in a prohibited pathogen – the Red-rimmed Melania. In fact, this would be classified as an Aquatic Invasive Species (AIS).

Mike Canning mentioned that these could be questions for the DWR. Possibly they may look at changing their Collection, Importation, Transportation and Possession of Animals Rule (R657-3) re: crustaceans. Anna replied that this would affect both the Department of Health rules (frozen fish) as well as DWR Rule(s).

Paul Evans mentioned that this matter highlights the issue of human health as well as control of non-native Aquatic organisms into the State of Utah. Anna Forest stated that the UDAF Fish Health Rule does indeed have the ability to act to protect wildlife, animal as well as human health.

Martin Bushman brought up the idea that the State Veterinarian may have the authority to place some testing requirements in this specific situation. Dr. Hess mentioned that within the Fish Health Rule this is already spelled out.

Paul Evans said it seems like the question is: 1) What to do immediately 2) Now that we have identified this particular issue how to set up a broader set of rules so that the producers and importers know what the landscape is?

Mr. Bushman stated the immediate concern is whether DWR is going to authorize the species. If it is, what are we going to do to protect the State of Utah's interests re: disease and other factors? It is possible in the short term for the State Veterinarian of Utah to use his authority to impose requirements on fish on international for example. In addition, the DWR COR process can also be used right away as a short-term mechanism to control the importation of certain species. For the long term we address this through rule change. Possibly look at exempting restaurants who sell live fish – especially on species we feel are no real threat from a disease standpoint.

Anna Forest then went over R58-17-13(4):

(4) For international shipments, a certificate of veterinary inspection from the source must be obtained by the importer indicating a negative record of testing by OIE reference labs for prohibited pathogens pursuant to R58-17-15(D)(2) and (3), a negative record of other OIE-listed pathogens affecting the aquatic animals to be imported, and that known nuisance species are not found in the water source. In addition, written authorization from the US Department of Agriculture, Animal and Plant Health Inspection Service (USDA/APHIS) for the importation must be included.

Anna said that this addressed international shipments but not fish of international origins. So in the case of the Vietnamese Catfish, they were imported by Dutch Boy Farms from Thailand. *Now that they are in Idaho they would be considered domestic.* She stated it would be nice to be able to require the testing records and OIE records from the source. Or, possibly, we could look at increase our inspection requirement in this section.

Chris Wilson mentioned that if we are talking about a rule change we might want to include certain emerging pathogens under either the Emergency Prohibited or Prohibited Pathogens. This in turn could require inspections for some of these. If there was found a drug-resistant strain of *Aeromonas* like Ms. Forest described, it might automatically trigger a suspicion response – or requirement for testing – so we don't have to deal with each one of these things as it comes along. This might give the Board some more authority so we are not relying entirely on the State Veterinarian to carry the whole weight on these types of issues.

Paul Evans stated that we should put on as an Agenda Item for our next meeting a discussion of the rule changes. It is important to look at the intent of what needs to be accomplished in terms of Aquatics, Marine, fresh water, live fish, fillet shipments. In addition **we could look at California's guidelines of live fish importation** as one end of the spectrum on regulations for consumers. He would be interested in seeing how this has been accomplished elsewhere.

Transfer of Fish Under Hardship Conditions – Chris Wilson, DWR

Dr. Wilson went over a couple transfers of fish under hardship conditions:

1) From Echo Reservoir below the dam downstream to where Echo Creek enters the Weber River

On Thursday, October 23, a total of 10 bluehead suckers and 6 fluvial Bonneville cutthroats were transferred from below the dam at Echo Reservoir immediately 100 yards downstream where Echo creek enters the Weber River. The need for transfer was dam renovation which caused dewatering of the stream and pumping of the plunge basin for repairs.

The fish were all examined by myself and found to be healthy for transfer as per our guidelines.



2) Irrigation Canal near the Green River

An irrigation canal adjacent to the Green River near the town of Green River, Utah, was being drained and there was concern that threatened or endangered fishes were being trapped and would perish. Biologists from the area attempted to electrofish the canal and move the fish immediately downstream back into the Green River. The activity was hampered by the cold temperatures and formation of ice in the canal.

The following fish encountered were examined and determined to be healthy and subsequently moved back to the river.

SPECIES	QTY
Bluehead sucker	1
Gila spp.	3
Colorado pikeminnow	1
Flannelmouth suckers	17



Variance Requests – Chris Wilson, DWR

Dr. Wilson summarized the two variance requests that were put before the board:

- 1) Variance Request for Green River Canal.
- 2) Variance Request for June Sucker Transfer at Utah State University.

Variance Request for Green River Canal

Tusher Wash Canal is a diversion canal that entrains federally listed endangered and state sensitive species. The Upper Colorado Program is working with NRCS, BOR, canal owners and UDWR to modify the diversion to prevent entrainment. We are requesting a variance to salvage endangered and state sensitive species from the canal each fall. The salvage will continue until the diversion structure is modified to prevent entrainment.

The fish to be salvaged are endangered and state sensitive species are considered very valuable since these are wild fish that are needed to maintain current population levels in the wild. They are too few and valuable for lethal inspection sampling.

These fish are raised on the same water as fish in the Green River - so they have the same life history and exposure to potential pathogens.

Salvaging these wild fish and moving 100 meters away back into their current habitat assists with maintaining the wild populations which cannot handle decreases, especially due to an action we can mitigate.

Variance Request For June Sucker Transfer At Utah State University

USU has about 160 June suckers in ponds in Millville, Utah. These fish are left over from previous research projects and need to be removed so USU can use the ponds for other research projects. June suckers will be stocked into Utah Lake.

June sucker are Federally listed endangered species and very valuable; especially these fish that have survived in these ponds for numerous years. They are too few and valuable for lethal inspection.

These fish originated from health approved stocks at Fisheries Experiment Station, and have been raised in an isolated pond, which is supplied by pathogen-free well water.

Stocking June sucker directly into Utah Lake will assist with recovery of the species

With a modification to the June Sucker variance to include a physical examination as well as pond history, both of these variance requests were approved unanimously by the board.

Aquatic Invasive Species (AIS) Update – Roger Wilson, DWR

A little more than a year ago DWR recognized there were some concerns regarding New Zealand Mud Snails (NZMS) amongst the private growers and what they would do to their production. The committee has generated some drafts and goals. There is, however, a need for the committee to focus on AIS specifically.

The committee had some ideas early on:

- They wanted to reexamine the distribution of NZMS.
- They wanted to determine whether or not NZMS can impact the native (*Pyrgulopsis*) spring snails.
- Can the NZMS survive going through a fishes gut.

DWR has embarked on three studies with their FES group. Randy Oplinger is working on these right now. At the Lower Fish Hatchery they're looking at survival and viability of the snails after they go through a fishes gut. Randy is looking at re-evaluating the distribution of mud snails. In addition, they are examining at how these mud snails affect the native snails in a lab environment. Currently DWR is looking at NZMS in state waters.

Annual Report to the Board (Rule Requirement) – UDAF, Anna Forest

Some of the highlights: Altogether UDAF has a total number of 118 facilities split between Fee fishing, Aquaculture, Aquaculture & Fee fishing, Brokers and Fish Processing Plants:

Facility Numbers

FACILITY	2012	2013	2015
Fee Fishing	100	98	87
Aquaculture	13	12	16
Aquaculture & Fee Fishing	5	5	5
Brokers	5	5	5
Fish Processing Plants	4	4	5
TOTAL LICENSED	127	124	118

There are currently seven (incl. pending West Haven Ranch) In-State Fish Health Approved Facilities:

In-State Fish Health Approved Facilities

Facility	2012	2013	2015
Better Baits	√		
Christensen			√
Cold Springs Trout Farm		√	√
Coulter Fish Farm	√		
<u>Kesko Ranch</u>	√		
Mosquito Abatement Districts (4)	√	√	√
Mt. View Trout Farm	√	√	
Pine Creek Trout Ranch	√	√	√
Rob's Fish Farm	√	√	
Spring Lake Trout Farm	√	√	√
Water & Environmental Testing	√	√	√
West Haven Ranch	√	√	Pending

Since September 2014 a total of 1,470 fish have been sampled as part of the UDAF Fish Health Testing program:

Fish Health Testing

Species	2012	2013	Since 10 2014
Bluegill	0	0	120
Brook Trout	120	60	120
Brown Trout	180	120	120
Fathead Minnows	60	60	60
<u>Gambusia</u>	0	0	90
Rainbow Trout	640	900	480
<u>Redside Shiner</u>	60	60	0
Tiger Trout	60	60	60
Utah Chub	60	60	0
Wiper	0	0	180
Sterility Tests	240	180	240
TOTAL	1620	1320	1470

Anna Forest stated that in April 2015 she found Asian tapeworm in a fathead minnow that was included a shipment of bluegill from Hartley Fish Farms in Kansas. The bluegills were placed in a new concrete raceway at the destination hatchery. She told the hatchery owner to sort out the fathead minnows and destroy them. The raceway was disinfected. Anna sent a letter to the board as well as Hartley. She informed Hartley that she found Asian tapeworm and that all future shipments from them would have to be treated for Asian tapeworm. Fathead minnows were never given UDAF Fish Health Approval. In addition, the fathead minnows were not ordered by the Utah hatchery – they should never have been part of the order. Some of the bluegill were also put in private ponds such as Stansbury Park.

Asian Tapeworm Finding

- Collecting samples for triploidy testing
- Informed that a few odd fish mixed in with bluegill from Hartley Fish Farms
- Identified fish as Fathead minnows
- Offered to dissect one
- Found Asian tapeworm
- Fish sorted, fatheads removed raceway disinfected
- Informed FHPB and Hartley Fish Farms

The UDAF Fish Health Program underwent personnel changes in 2014. Two new forms were created to streamline the fish health approval process: 1) New Fish Health statement 2) New Application for Fish Health Approval. These statements now reflect everything in Code. In addition, 2014 saw the Entry Permit system go from a paper-based to electronic using the USAHerds ADT (Animal Disease Traceability) program. UDAF is working with DWR to make a web-based Fish Movement receipt program for Private Aquaculture growers. This will replace the paper-based system currently used. One of the features of this Fish Movement we hope to implement is a visual map with a layer that shows the private growers where it is legal to stock certain species of fish. Lastly, Ms. Forest is evaluating the COR (Certificate of Registration) process to make sure it is compliant with the DWR's stocking policy. Roger Wilson expressed appreciation that UDAF Fish Health has been partnering with DWR on these matters.

Species Imported Into Utah, 2015

Arctic Grayling	Largemouth Bass
Bluegill	Rainbow Trout
Channel Catfish	Red ear Sunfish*
Cutthroat Trout	<u>Saugeye</u>
Crappie	Tiger Muskie
Golden Trout	Walleye
Grass carp	Wipers
<u>Kokanee</u>	<u>Woundfin</u> Minnows

Annual Report to the Board (Rule Requirement) – DWR, Wade Cavender

Highlights:

The Fisheries Experiment Station provides the following services:

Fisheries Experiment Station

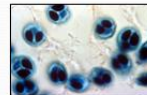
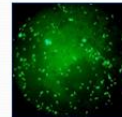
- Inspection Services
 - State hatcheries
 - Wild/Feral Populations
- Pathogen Surveillance
- Diagnostic Services
- Research Program
- General Fish Health Issues
- Importation - Permit Review/Submission



The FES Laboratory has the following capabilities:

Laboratory Capabilities

- General Methods
 - Necropsies
 - Biochemical Assays
 - Fluorescent Antibody testing
 - Antibiotic sensitivity
 - Spore Extractions
 - Histology
 - Cell Culture
 - Virus Isolation
 - Polymerase Chain Reaction (PCR)



Wade stressed that one of the advantages which the FES Lab has is a very diverse and capable staff. It is pretty rare where the lab is not able to take on a request.

The most important responsibility of FES is to provide inspection services for our state hatcheries. Each one of the State Fish Hatcheries were inspected. No prohibited pathogens were found.

State Fish Hatcheries


- Inspected Hatcheries
 - Fisheries Experiment Station
 - Fountain Green
 - Glenwood
 - Lee Kay Hatchery
 - Loa
 - Mantua
 - J. Perry Egan
 - Wahweap
 - Whiterocks
 - Mammoth Creek
 - Midway
 - Springville
 - Kamas



As far as Whirling Disease (WD), FES had two requests this past year for the Whirling Disease survey. Among the four sites FES examined they did have one new find at Gordon Creek:

WD Survey

- NRO
 - Gordon Creek (WD+)
- SRO
 - Mammoth Cr. – Red Desert Rd.
 - Mammoth Cr. – County Line
 - Mammoth Cr. – Reed Valley
- SERO
 - No sites identified
- CRO
 - No sites identified
- NERO
 - No sites identified



Chalk Creek was the first (WD) detection this year. Chalk Creek is located in the northern Region and flows down into the Weber River. The confluence with the Weber River is just adjacent to Echo Reservoir. Of the sixty fish collected fifty-two tested positive (PCR) for WD.

The Whirling Disease map is online at: <http://bit.ly/1r187aM>. The positives are shown with **red + signs**.

Our next meeting is tentatively scheduled for Tuesday, August 11th at Loveland Living Planet Aquarium in Draper.